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FOLDABLE SHOPPING BAG  
[Oritatami tesage bukuro]

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| TITLE                                     | (54):  | FOLDABLE SHOPPING BAG   |
| FOREIGN TITLE                             | [54A]: | Oritatami tesage bukuro |

## Claim

A foldable shopping bag consisting of: the main bag part that has the folded bottom part that is formed in the center of a thermoplastic synthetic resin sheet piece and has the end parts of the sheet pieces that are laminated together fused to each other; and a handle that is fused in the opening part of the said main bag part, and it has a bottom plate that is attached to the inside of the said folded bottom part at one side in the aforementioned folded bottom part.

## Detailed explanation of the invention

### Field of industrial use

This invention relates to plastic film shopping bags that are used for the convenience of placing beer cans, etc., that are purchased at stores and then carried around by customers.

### Prior art

Figure 6 shows a conventional plastic film shopping bag of this kind.

This shopping bag consists of main bag part A, handle part C that is attached to the opening part B of this main bag part A, and bottom member D generally consisting of cardboard. This is piled together and kept in stores. At each purchase, the opening part B is opened, the bottom member D is positioned in the bottom, and purchased items are placed therein, as shown in Figure 7, and handed to a customer.

This type of shopping bag looks nice, is easy to use, and the strength is also relatively high, and it is favored by users.

Problems to be solved by the invention

However, the manufacture of this shopping bag must rely on a manual process because of its structure.

Specifically, it is manufactured by the process that includes:

- (1) folding both side parts of a tube-shaped plastic film,
- (2) forming the bottom by thermally fusing one end part,
- (3) placing a reinforcing material made of paper in the opening part and folding it down, forming handle insertion holes, and then attaching a handle at both sides of the opening,
- (4) and setting a bottom plate made of paper in a special shape inside the bag, which process must be carried out manually.

Accordingly, even if the product itself is favored, it has many problems that should be solved, including the cost, small market supply amount, as well as limitations on diversified printing on the bag surface as a medium for promoting products that are contained therein.

This invention solves the said problems and offers a shopping bag that can be easily manufactured by a machine processing and can be further conveniently used.

Means to solve the problems

This invention solves the aforementioned problems by changing the starting material for the main bag part, which was in a tube form conventionally, to a thermoplastic synthetic resin sheet material that is suitable for a machine process.

Specifically, it consists of: the main bag part that has the folded bottom part, which is formed in the center of a thermoplastic synthetic resin sheet piece and has the end parts of the sheet pieces that are laminated together fused to each other; and a handle that is fused in the opening part of the said main

bag part, and it has a bottom paperboard attached to the inside at one side of the said folded bottom part that is folded in half.

## Function

By changing the starting material of the main bag part from a conventional tube shaped material to a sheet material, bending, fusing, and melt-cutting can be easily achieved. Most of the processes can be automated. Moreover, printing in multiple-colors on said bag surface also will be possible, and the function as a sales-promoting product can be further improved.

Furthermore, the bottom paper is attached to the inside at one side of the folded part that forms the bottom part by a means such as fusion, for example. Therefore, it naturally forms the bottom material when opening the bag, and it is not necessary to provide an extra processing for the bottom material.

## Embodiment

Figure 1 is a diagram that shows a foldable shopping bag (10) in this invention in a folded state. Figure 2 shows a cross-section of Figure 1 at line II-II. Figure 3 furthermore shows a development elevation of the foldable shopping bag (10) in Figure 1.

While referring to Figures 1, Figure 2, and Figure 3, a bag (10) in this invention has the bottom part (2) that is formed by folding the center of a thermoplastic synthetic resin sheet piece (1), and (3) shows the fusion part of the sheet pieces that are laminated together. A handle material (5) similarly made of a synthetic resin is fused at both edges of the opening part (4) of the main bag part that is formed by this. (6) indicates a bottom plate made of cardboard that has a fusion part (8) formed and attached to one surface (7) of the bottom part (2) that is folded in half.

The bag (10) comprised in this manner is arranged and stored in the manner indicated in Figure 1. As clearly shown in the same diagram, the bag itself has a structure that is basically formed by folding up a sheet in the state it is folded, the edge parts that are laminated together are fused to each other in a thin flat state, which is convenient for storing.

Figure 4 shows the state of use in which the folded state indicated in Figure 1 is expanded open. By just spreading out the opening part (4) indicated in Figure 1, the bottom plate (6) that is attached to the inner surface at one side of the bottom part (2) spreads out naturally together as the bottom part (2) of the bag expands and forms the bottom of the bag that is expanded open. Then, beer cans and other items to be stored are placed in its bottom part provided for carrying around the items that are placed therein.

Figure 5 shows diagrams that indicate the bag manufacturing processes of this invention. As shown in the same figure (a), a plastic film sheet piece (1) at a thickness of 10-100  $\mu\text{m}$  that has printing provided on its surface beforehand is folded in half, as indicated in the same figure (b). It is further folded, as indicated in the same figure (c), and a gusset bottom part (2) is formed. Then, as indicated in the same figure (d), unnecessary parts (9) are melt-cut off so that the bottom part (2) that is folded will form a rectangular bottom. Next, as indicated in the same figure (e), a bottom plate (6) consisting of cardboard is dot-fused on one surface (7) of the bottom part (2) that is folded and attached in the fusion part (8). Then, a handle material (5) is heat-fused at both sides of the opening part (4), as indicated in the same figure (f). The main bag part, which has the bottom plate (6) attached to the folded bottom part (2) and also has the handle material (5) attached at both sides of the opening part (4) in this manner, is thermally fused in the edge parts, as indicated in the same figure (g), and the fusion part (3) is formed, and it is completed.

The shopping bag in this invention uses a sheet material as the starting material and is manufactured by a simple process. Therefore, the entire process can be accomplished by machines, and, moreover, can be accomplished in a continuous process.

#### Effect of the invention

This invention displays the effects below.

- (1) The process is simple, which allows for a complete automation by machines.
- (2) The bottom plate is attached and it automatically settles into to the bottom position as the user expands the bag, thus not requiring another step for using the bag.
- (3) Storing and transporting are convenient just like with a conventional type.
- (4) Printing on the main bag part can be diversified, and an increase in the function of the bag can be attempted.

#### Brief explanation of the figures

Figures 1-5 show an embodiment of this invention.

Figures 6 and 7 indicate a conventional example.

- 1 Synthetic resin sheet piece
- 2 Bottom part
- 3 Fusion part
- 4 Opening part
- 5 Handle material
- 6 Bottom plate

- 7 Surface at one side of the bottom part
- 8 Fusion part
- 9 Unnecessary part
- 10 Shopping bag
- A Main bag part
- B Opening part
- C Handle part
- D Bottom member

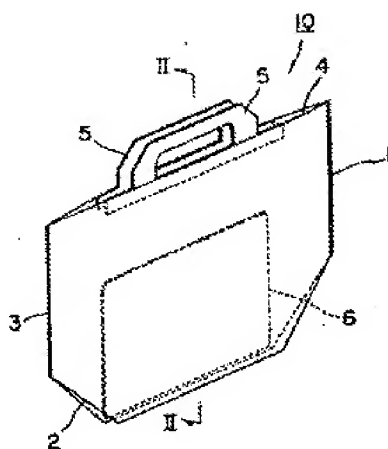


Figure 1



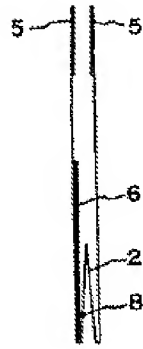


Figure 2

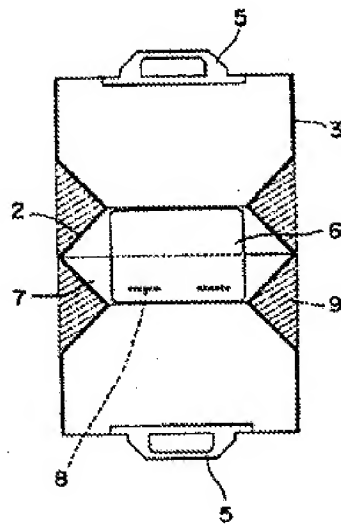


Figure 3

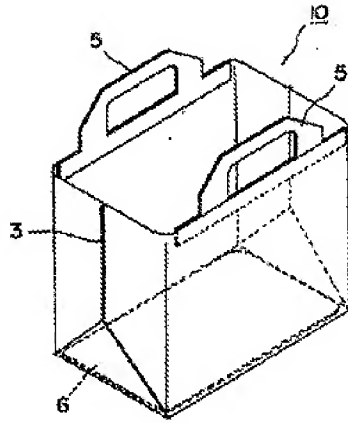


Figure 4

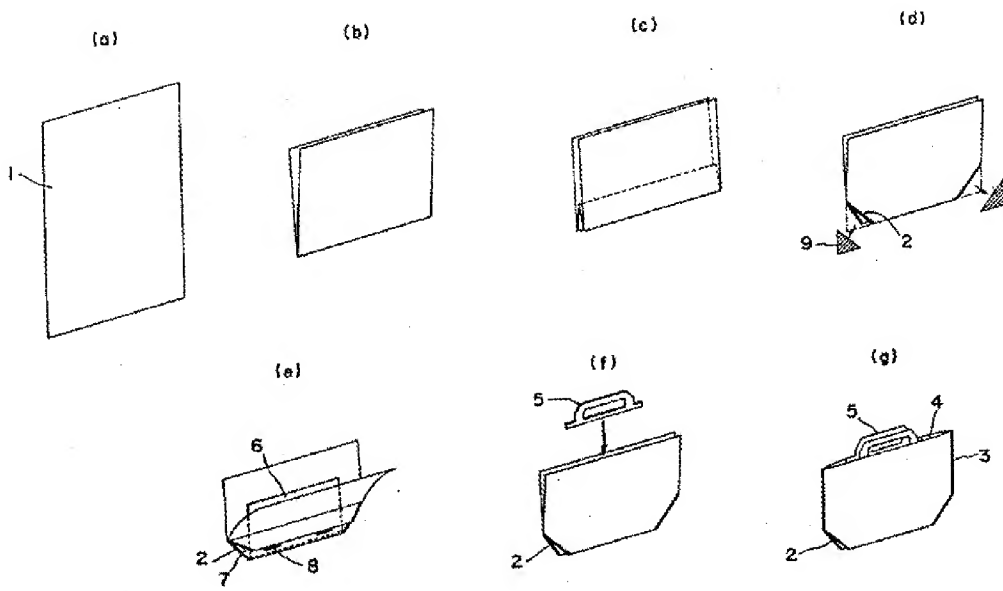


Figure 5

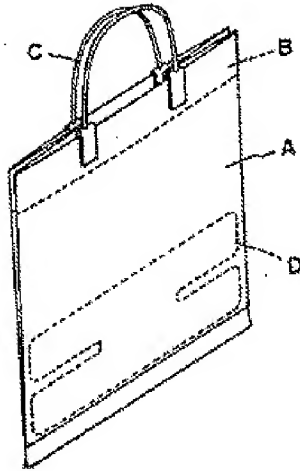


Figure 6

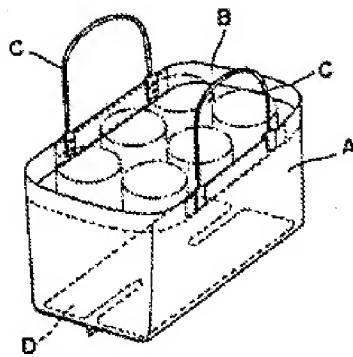


Figure 7

Procedural amendment form

August 17 of Hei 1[1989]

To Chief of Patent Office Fumiki Yoshida

1. Indication of the case

Patent Application No. Hei 1[1989]-155004

2. Name of the invention

Foldable shopping bag

3. Amended by:

Relationship to the case: Patent applicant

Name: Nagasa Kako K.K.

4. Agent

Address: Hakata Shinmitsui Biru, 1-1-1 Hakataekimae, Hakata-ku, Fukuoka-shi 812 (092)451-8781

Name: (8216) Masu Kobori, affixed

5. Subject of the amendment

Disclosure

6. Content of the amendment

Method of examination, Sato [illegible]

Patent Office, August 18 of Hei 1 [1989], Patent Application Section, Hara

(1) The following sentences will be inserted between line 4 and line 3 from the bottom on page 6 in the disclosure.

"Each aforementioned diagram attached indicates an example, in which the bottom part (6) made of cardboard that is inserted in the bottom part (2) of the main bag part that is folded in half is inserted while in a plate form; however, this bottom plate (6) made of cardboard can be inserted in a state folded in half in a mountain shape along the bottom part (2) of the main bag part that is folded in half and fused from the back surface.

In both cases, it is also possible to use an optional form including a simple insertion, etc., without providing the fusion part (8).

When the bottom plate (6) made of cardboard in a state folded in half is inserted along the bottom part (2) of the main bag part, it is convenient because the bag can open for use naturally by just pressing the top part in a mountain shape that, is folded in half with the bottom of a beer can and other items to be stored."

Procedural amendment form

(Method)

In conformity

October 26 of Hei 10[1998]

To Chief of Patent Office, Fumiki Yoshida

1. Indication of the case

Patent Application No Hei 1[1989]-155004

2. Name of the invention

Foldable shopping bag

3. Amended by:

Relationship to the case: Patent applicant

Name: Nagasa Kako K.K.

4. Agent

Address: Hakata Shinmitsui Biru, 1-1-1 Hakatackimac, Hakata-ku, Fukuoka-shi 812 (092)451-8781

Name: (8216) Masu Kobori, affixed

5. Date of the amendment order: September 11 of Hei 1[1989]

Sent on: September 26 of Hei 1[1989]

6. Subject of the amendment

Disclosure

7. Content of the amendment

Method of examination, Ito [illegible]

Patent Office, October 30, Hei 1 [1989], Patent Application Section, Furuya

Disclosure, page 7, lines 10-11 "Figure 1...indicates a conventional example" will be amended as below.

"Figure 1 is a diagram that indicates the foldable shopping bag in this invention in a folded state, Figure 2 is a cross-sectional diagram of Figure 1 at line II-II, Figure 3 is a development elevation of the shopping bag in this invention, Figure 4 is a diagram that indicates the shopping bag in this invention in the use state, Figure 5 is a diagram that indicates the manufacturing processes of the shopping bag in this invention, Figure 6 is a diagram that indicates a conventional shopping bag made of plastic film, and Figure 7 is a diagram that indicates a conventional shopping bag in the use state."

Procedural amendment form

July 3 of Hei 2[1990]

To Chief of Patent Office, Toshi Uematsu

1. Indication of the case

Patent Application No. Hei 1[1989]-155004

2. Name of the invention

Foldable shopping bag

3. Amended by:

Relationship to the case: Patent applicant

Name: Nagasa Kako K.K.

4. Agent

Address: Hakata Shinmitsui Biru, 1-1-1 Hakataekimae, Hakata-ku, Fukuoka-shi 812 (092)451-8781

Name: (8216) Masu Kobori, affixed

5. Subject of the amendment

Disclosure

6. Content of the amendment

Method of examination, Kosuda

Patent Office, July 5 of Hei 2 [1990], Patent Application Section, [illegible]

(1) The sentence below will be inserted in the disclosure between the last line on page 3 and line 1 on page 4.

"The aforementioned thermoplastic synthetic resin sheet piece is not limited only to mere sheets, and it certainly includes net form sheets, porous sheets, and fiber-reinforced sheet types that have been used in conventional shopping bags."